

Utah Science, Technology and Research (USTAR) Initiative

PTAC Conference



October 18, 2007



What we will cover

- USTAR – Why
- USTAR – What it is
- USTAR – Where it is going
- Startups and Entrepreneurs

What we won't cover : how to get government contracts

Complementing Other State Initiatives

Centers of Excellence



grants for university research
commercialization

Fund of Funds



enhanced availability of financing

Clusters



focus for economic development

Incentives



Recruit new companies with high paying jobs

Utah is a vibrant State

Very Entrepreneurial:

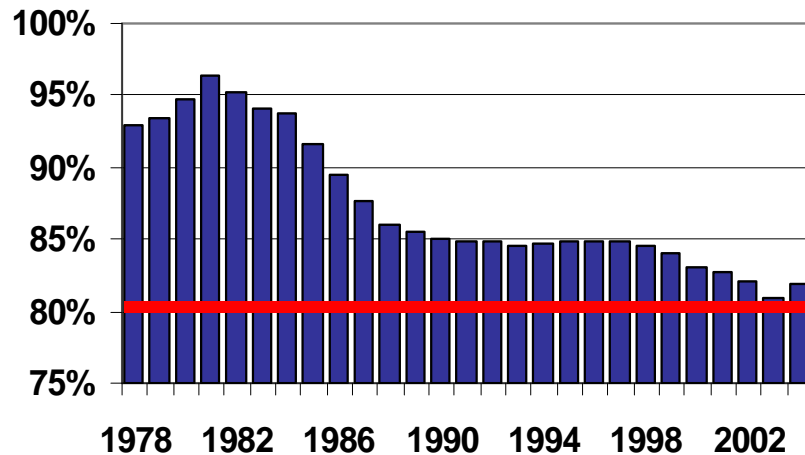
- 3 nexus cities in the top 10 of 394 metro areas
- #1 in economic dynamism (Kauffman)

History of Innovation:

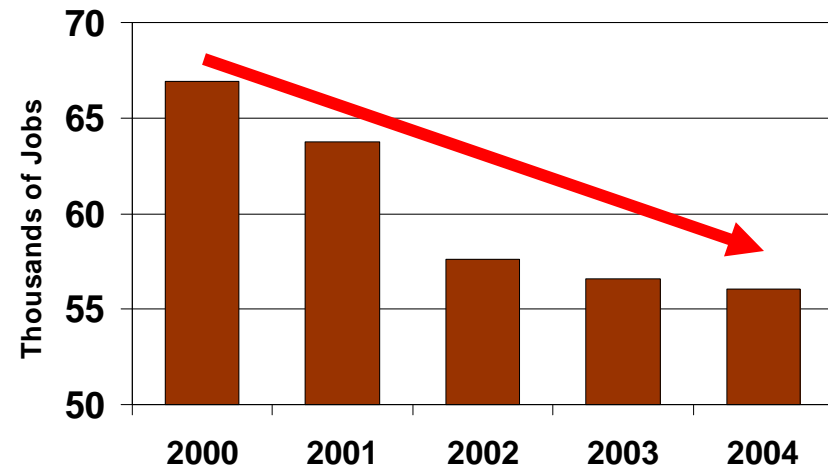
- Novell, WordPerfect, Iomega
- First Artificial heart, Hearing Aid, Synthetic Diamond

Utah has Economic Cycles

Average Utah Salaries as a Percent of U.S. Average

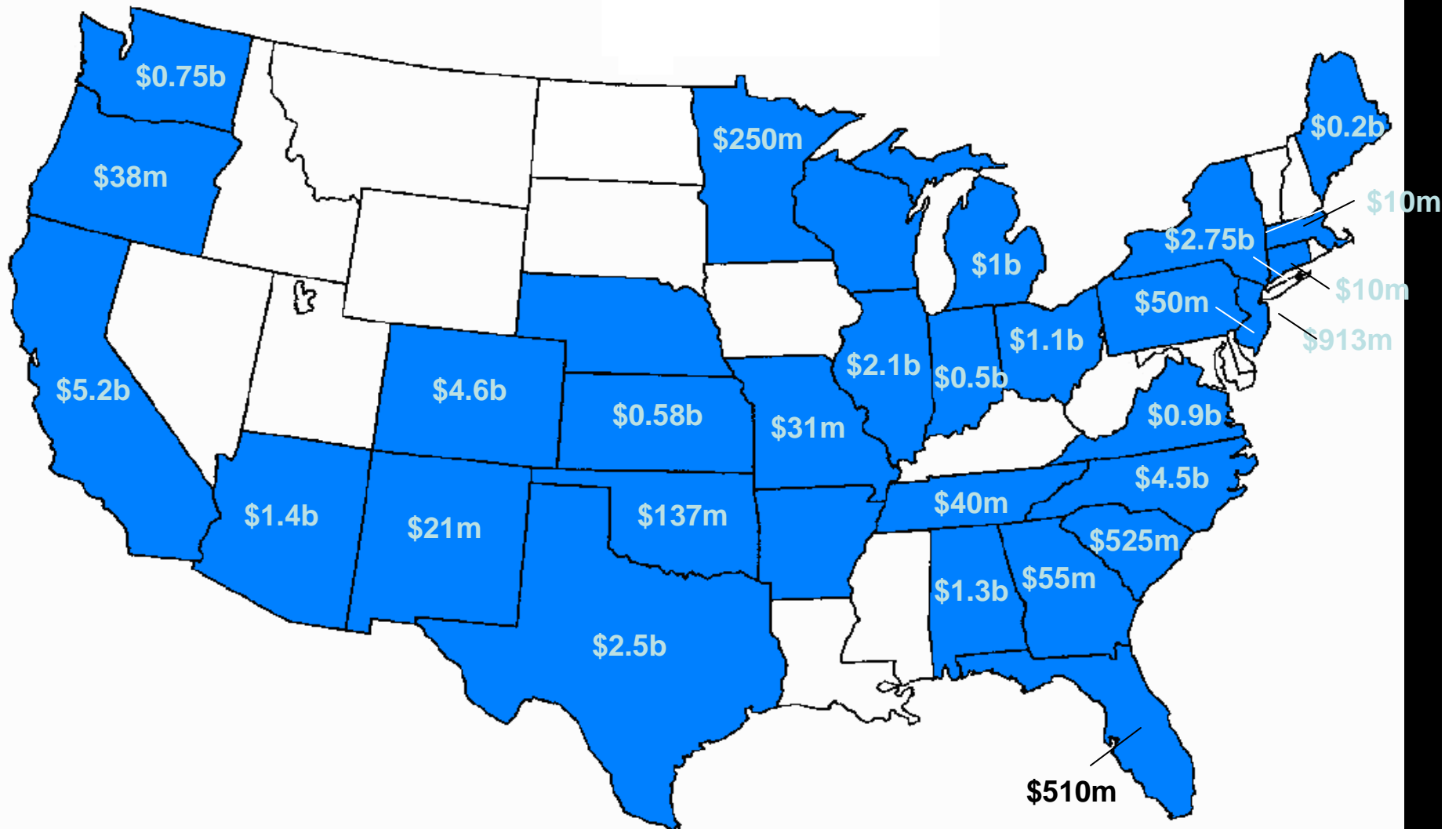


Utah's Technology Employment



* Source: Oct 2005 Economic Prospectus

High-Tech University Research Funding Initiatives



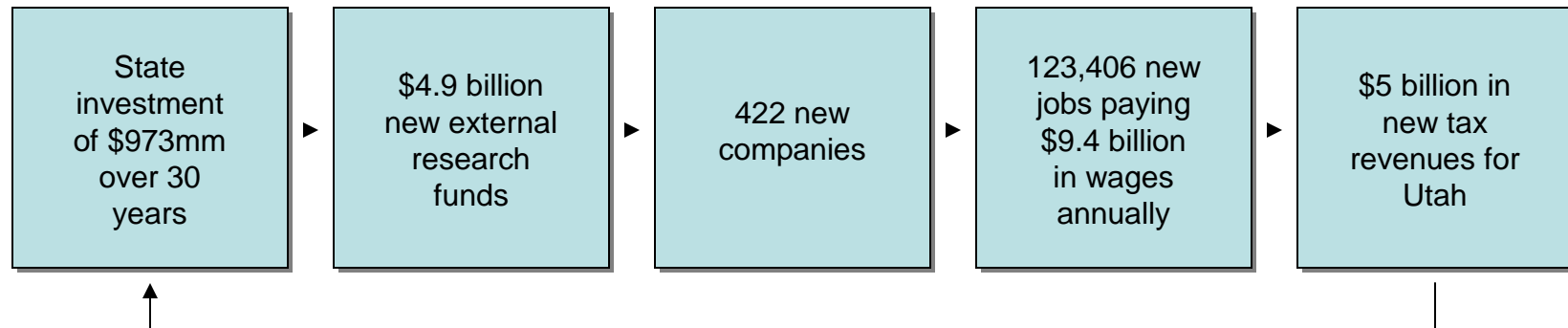
Utah Science Technology and Research (USTAR) Initiative

A bold and far-reaching initiative supported by Utah industry and business leaders, and sponsored by the State legislature, that aims to ensure that Utah remains a leader in the Knowledge Economy!



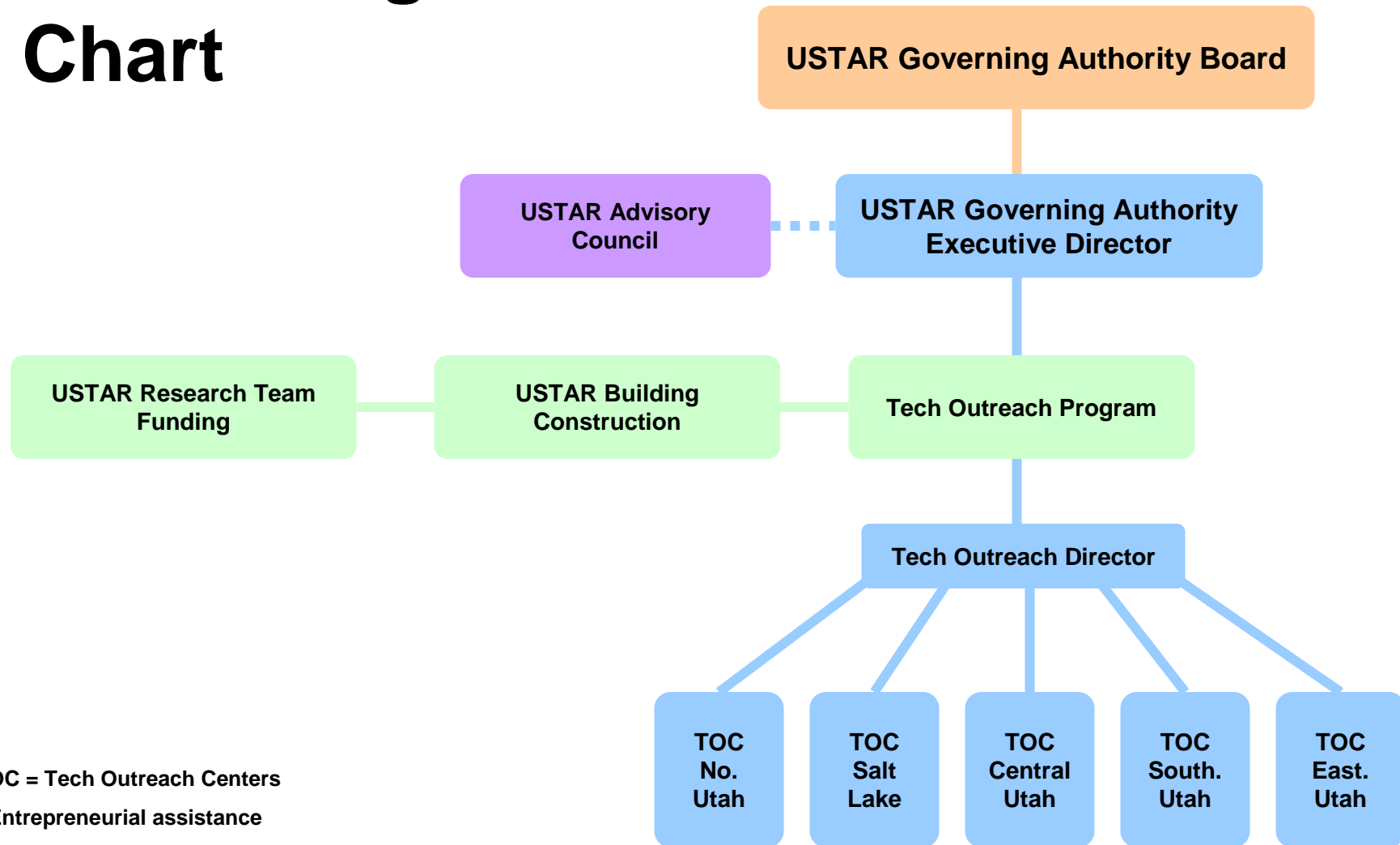
The Goal:

Oct05 Economic Prospectus



* Source: Oct 2005 Economic Prospectus

USTAR Organization Chart



TOC = Tech Outreach Centers

- Entrepreneurial assistance
- Research interaction with Utah companies
- Research collaboration between higher ed. faculty

USTAR Governing Authority Board

An experienced and committed team with diverse experience in inventorship, entrepreneurship, financial capital, university research and running and growing companies:

- **Dinesh Patel**, Ph.D., Managing Director, VSpring Capital (Chairman)
- **Scott Anderson**, CEO of Zions Bank (Vice Chairman)
- **Ed Alter**, Utah State Treasurer's Office
- **Jim Dreyfous**, Managing Director, UV Partners
- **Hunter Jackson**, Ph.D., former CEO of NPS Pharmaceuticals and currently Executive Director, Technology Venture Development
- **Dan Olsen**, Ph.D., Brigham Young University
- **Cathy A. Petti**, M.D., ARUP
- **Charles J. Precourt**, VP of Business Development, ATK
- **Jack Sunderlage**, CEO, Content Watch



USTAR Elements

**\$19 Million Ongoing Appropriated to USTAR Governing Authority;
\$200 Million over 4 years to build world-class interdisciplinary research and innovation centers**

USTAR Research Team Funding

- To attract and retain world class faculty at Utah's tier 1 research universities
- Focus on the strongest innovation focus areas associated with each university and relevant to Utah economy

USTAR Building Construction

- Bio Innovations Institute at Utah State University
- Neuroscience and Biomedical Technology Research at the University of Utah

Tech Outreach Program

- Entrepreneurial assistance
- Research interaction with Utah companies
- Research collaboration between higher ed. Faculty
- Interns to assist business analysts and program directors



USTAR Program Elements

Innovation teams

focused on research with high commercial potential

Technology outreach program

to help realize the economic opportunity
through public/private partnerships

World class research facilities

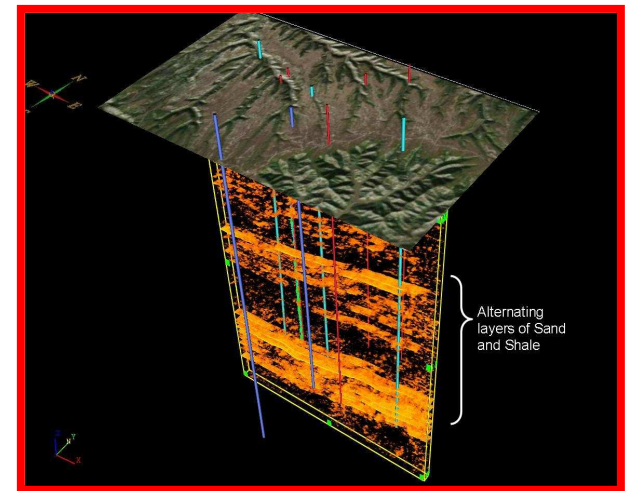
at USU and UofU



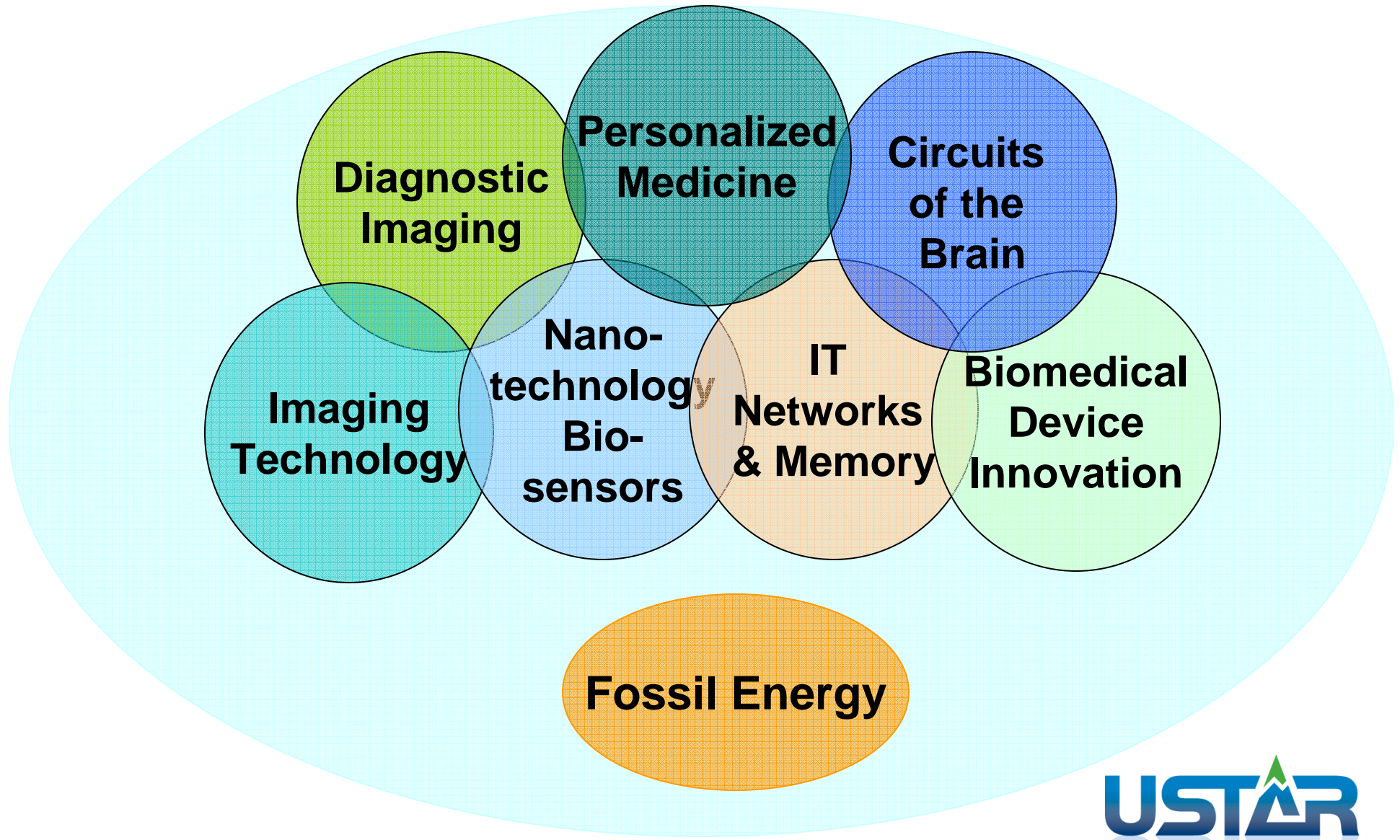
Brief Video

For each of the innovation focus areas...

- Existing University strengths
- Potential economic impact
- Commercial opportunities
- Team goals
- Proposed hiring areas



University of Utah Innovation Focus Areas



USTAR Energy Cluster at the U. of Utah

- **UU Strengths**

- **ICES**

- **Coal development and environmental controls**
 - **Combustion**
 - **Simulation**

- **EGI**

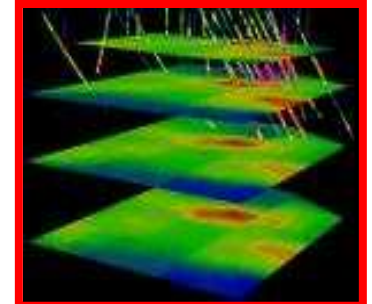
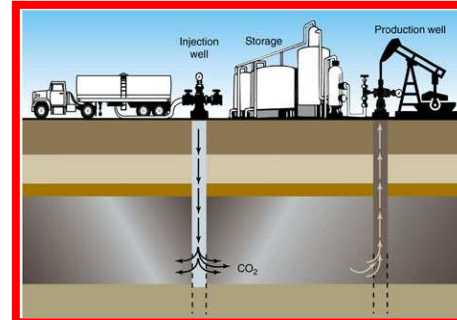
- **Reservoir Characterization**
 - **Geothermal**

Target Hiring Areas

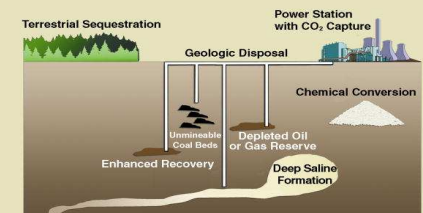
- 1. CO₂ sequestration & EOR**
- 2. Chemical characterization & synthetic fuels**
- 3. Oil shale / oil sands production**
- 4. Resource recovery & utilization**

Team Focus:

- **Utah oil-shale deposits**
- **‘Stranded oil’ in existing fields**
- **Clean utilization alternatives for Utah Coal**
- **Conversion of Utah resources to advanced synthetic fuels & chemicals**



Carbon Sequestration Options



USTAR Energy Cluster at the U. of Utah

- **Commercial Opportunities**

- Unlock over 2.0 trillion barrels trapped in oil-shale deposits in the Green River formation of Utah, Colorado, and Wyoming
- Recover “stranded oil” by development of Utah technology services and infrastructure for CO₂ enhanced oil recovery
- Develop improved catalysts to convert recovered hydrocarbons (shale oil, coal, low spec coals) to advanced synthetic fuels and chemicals



Potential Economic Impact:

- A 100,000 barrel per day oil-shale facility \Rightarrow \$50 million per year*
- 740 million barrels of additional oil recovery by CO₂ EOR \Rightarrow \$1 Billion* in state severance taxes

** Assumes \$50 per barrel*

Utah State University Innovation Focus Areas

- Center for Advanced Nutrition
- BioFuels
- Center for Active Sensing and Imaging (CASI)

USTAR Program Elements

Innovation teams

focused on research with high commercial potential

World class research and innovation

Facilities at USU and U of U

Technology outreach program

to help realize the economic opportunity
through public/private partnerships



USTAR Program Elements

Innovation teams

focused on research with high commercial potential

World class research and innovation facilities at USU
and U of U

Technology outreach program

to help realize the economic opportunity
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Science as Inspiration

Larry Page, Eric Schmidt
Google
May 1, 2002

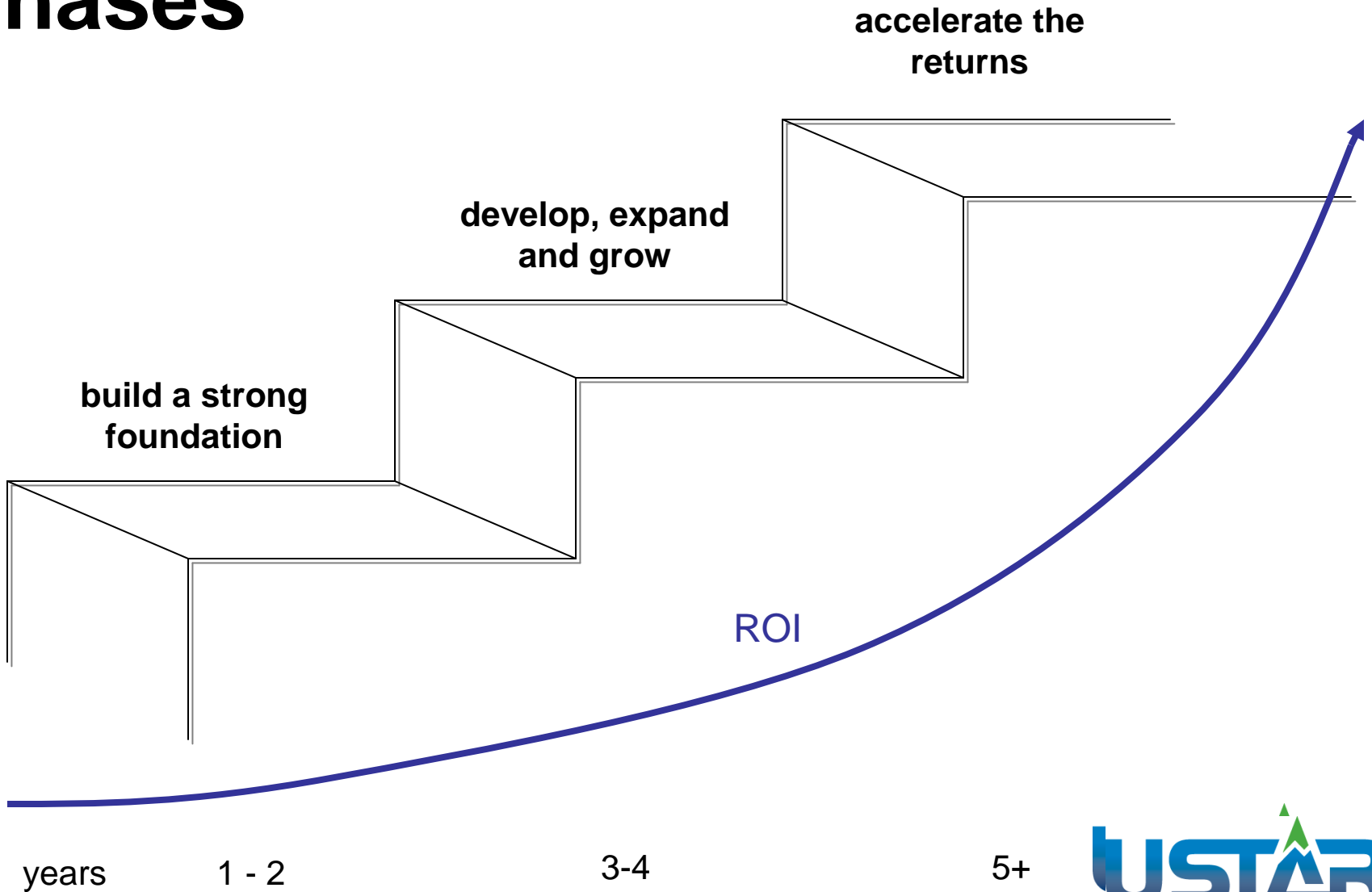
Background: Technology Outreach Program Objectives (from Senate Bill 75)

.....act as a resource to:

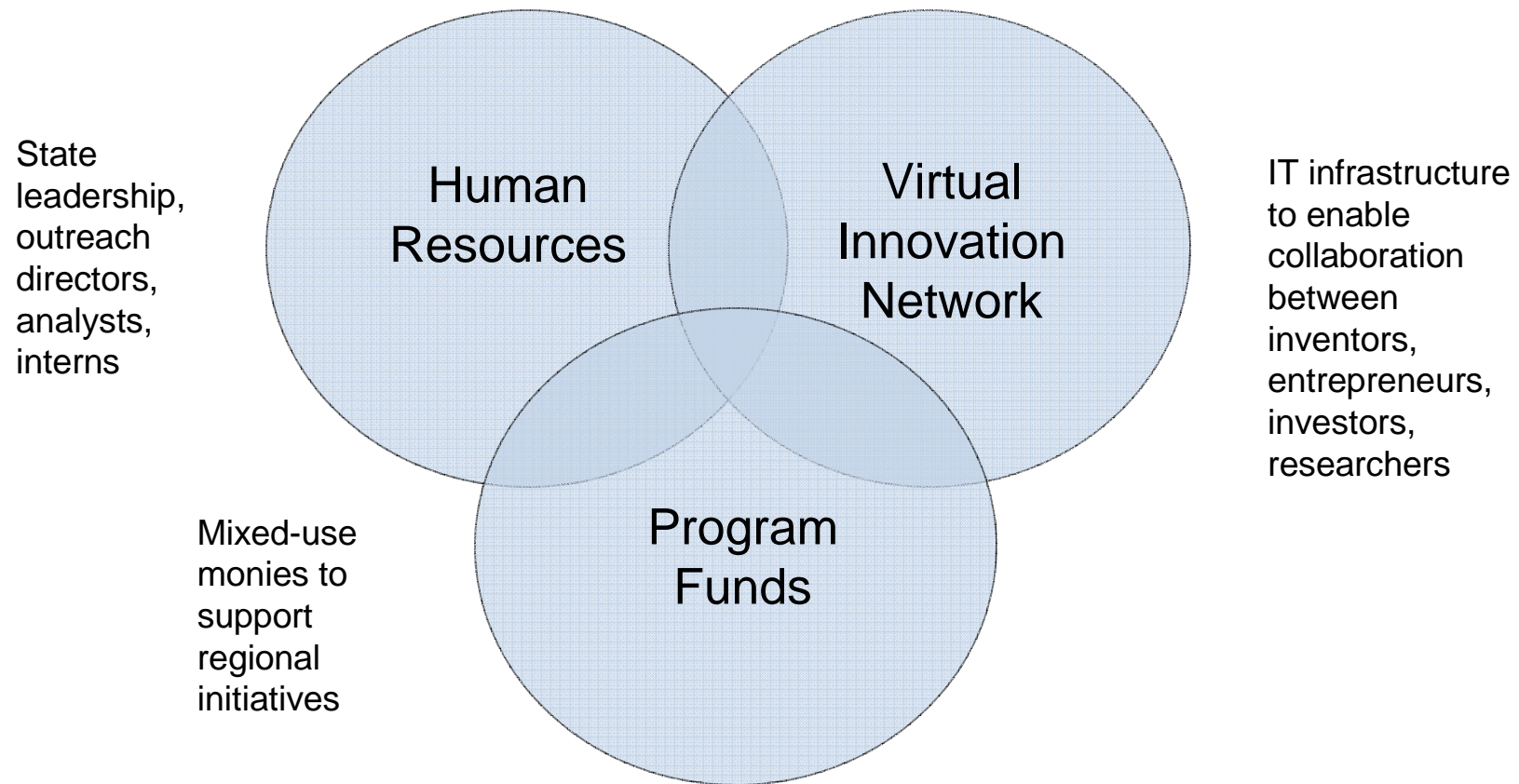
- broker ideas, new technologies, and services to entrepreneurs and businesses throughout a defined service area;
- engage local entrepreneurs and professors at applied technology centers, colleges, and universities by connecting them to Utah's research universities;
- screen business ideas and new technologies to ensure that the ones with the highest growth potential receive the most targeted services and attention;
- connect market ideas and technologies in new or existing businesses or industries or in regional colleges and universities with the expertise of Utah's research universities;
- assist businesses, applied technology centers, colleges and universities in developing commercial applications for their research, and;
- disseminate and share discoveries and technologies emanating from Utah's research universities to local entrepreneurs, businesses, applied technology centers, colleges, and universities



USTAR Strategic Phases



Technology Outreach and Innovation Program (TOIP) Overview



USTAR Human Resource Principles

A diverse team of business leaders with experience in Entrepreneurship, inventorship and starting, running and growing companies:

Successful startups and high growth companies have:

- Strong Team: Human Capital Strategy
- Solid Strategic Plan
- Sufficient Financial Capital to meet milestones and plan for growth
- Operational Systems that support expansion

Utah companies come in all shapes and sizes but 4 overriding technologies drive a lot of growth:

- Bio Tech: medical device
- Advanced Materials: aerospace, outdoor products
- Energy: Coal, Gas, Oil, Unconventionals



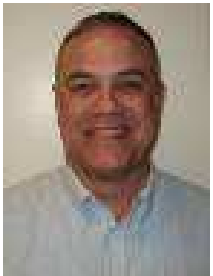
USTAR Director Team



Stan Kanarowski- Technology Outreach and Innovation Program Director:

Education: Masters Stanford Business School (Sloan Fellow); Master of Electrical Engineering, BSEE, University of Wyoming

Work Experience: Venture Capital (Costella Kirsch), CEO, Co-founder & President, iDEAL; CEO, founder & President, Blitz Computer



William Pratt- Technology Outreach Director for Southern Utah:

Education: Ph.D in Mechanical Engineering, BYU; Masters of Engineering Management, BYU

Work Experience: CEO, Chief Scientist of Patterned Fiber Composites, Inc.; Engineering and Program Management Consultant, DARPA; Manufacturing Engineer, Thiokol; Officer, US Army



USTAR Director Team - Continued



Curt Roberts- Weber State University:

Education: MBA, Harvard Business School; BA, Economics, Weber State University

Work Experience: Senior Engagement Manager, McKinsey & Company; Chairman & CEO, Peace Health; VP of Global Strategy, VP & GM of Vision, Timing, and Tech Ventures, Nike



Steven Roy- Technology Outreach Director for Utah County:

Education: Master of Organization Behavior, BYU; BS in Psychology, BYU

Work Experience: Senior Manager, Sun Microsystems; Senior Manager Business Development and Strategic Planning, iPlanet; Organizational Readiness Manager, Sun Microsystems



USTAR Director Team

- Continued



Suzanne Winters- Technology Outreach for Salt Lake County:

Education: *Ph.D in Pharmaceuticals, University of Utah; BA in Chemistry, Ohio Wesleyan University*

Significant Experience: *Research & product development with large & small companies; Commercialization, license negotiation; SBIR/STTR/RO1 grant applications, Venture Capital Acquisition*



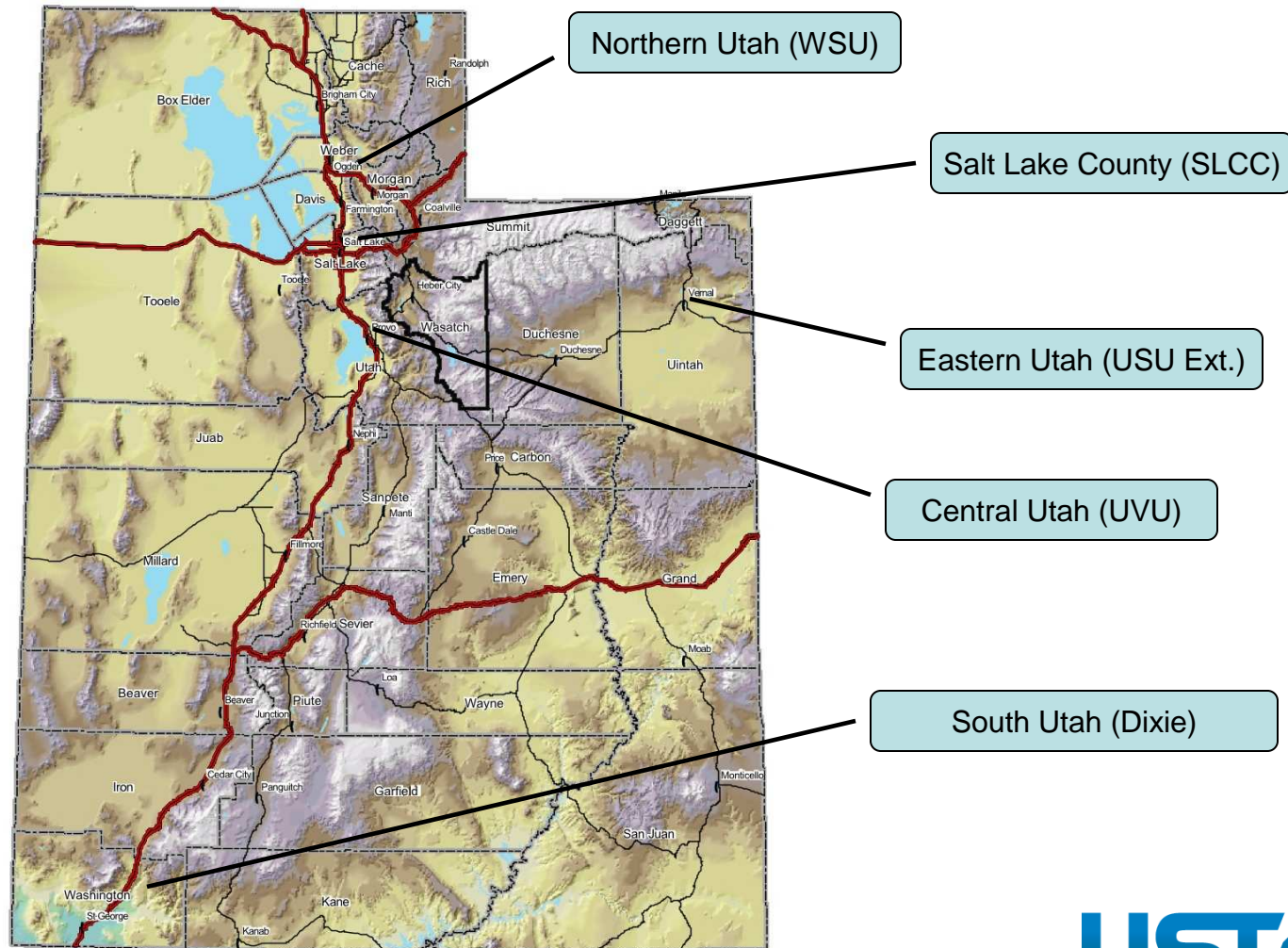
Alan Walker - Technology Outreach for Eastern Utah:

Education: *MBA in Production Management, Rensselaer Polytechnic Institute; BS in Applied Science and Engineering, US Military Academy*

Work Experience: *Prior Director of Gas Supply for Questar. Over 25 years of experience in energy industry management. Served in US Army for 30 years as a Special Forces Officer and retired as a colonel.*



Technology Outreach Center Locations





1.0 Regional Overview (Utah, Wasatch & Summit Counties)

1.1 Characteristics

The Central Utah Region consists of Utah, Wasatch and Summit counties. The majority of key industries and educational institutions are located in Utah county.

1.3 Resources

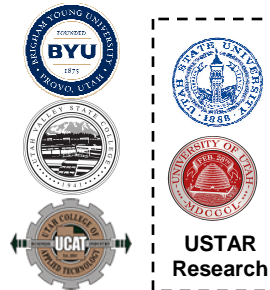
Networking Organizations:

1. UVEF
2. Corporate Alliance
3. UTC
4. Junto
5. Chamber Events
6. ?

Incubators:

1. OSTC
2. Provo Labs Academy
3. ?

Education:



Resource Organizations:

1. USTAR
2. MEP
3. PTAC
4. Custom Fit
5. SCORE
6. Utah SBDC
7. BDC of Provo
8. CEDO
9. Wasatch Economic Development
10. ?

Capital/Investors:

1. Utah Fund of Funds
2. City of Provo Fund
3. Canopy
4. Wasatch Ventures
5. vSpring
6. UVPartners
7. Grow Utah Ventures
8. Mountain West Capital Network
9. FundingUniverse.com
10. Utah Angels
11. Park City Angels
12. ?

Chambers:

1. American Fork
2. Heber Valley
3. Park City
4. Provo/Orem
5. Richfield
6. Spanish Fork
7. ?

Functional Specialists:

1. Bankers
2. Accountants
3. Attorneys
4. Staffing Agencies
5. IT Service Providers
6. Real Estate Agents
7. ?



Entrepreneurs & High Tech Business

1.2 Key Industries/Needs:

Industries

- Software/Internet Development
- IT Services
- Neuroceuticals
- Synthetic Diamonds
- Genealogy
- Language Learning/Translation
- Robotics

Needs

- Lack of an Entrepreneurial "Script" (Process)
- Lack of Accessibility/ Visibility to Resources
- Poor Resource Collaboration
- Incomplete Funding Ecosystem
- Lack of Experienced Human Capital
- Lack of Incubators
- Lack of Prototyping Assistance
- Lack of cost effective Patent Assistance

Informational Web Site



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Utah Science Technology and Research Initiative (USTAR): *Catalyzing technology development through innovative research at state-of-the-art research facilities and world class science, innovation, and commercialization teams.*

Utah has always been at the forefront of scientific discovery and innovation. From Philo T. Farnsworth's invention of the television, to mapping the human genome, Utah's research universities continue to play a pivotal role in technology innovation and commercialization. Building on this heritage of innovation, the Utah State Legislature, with the strong endorsement of Utah's business community, passed an innovative, visionary and far-reaching bill, the Utah Science Technology and Research initiative (USTAR), to bolster Utah's high technology economy.

The mission of USTAR is to promote and encourage local commercialization of discoveries and technologies emanating from the state's public research universities to regional applied technology centers, colleges, businesses, and entrepreneurs. This website serves as a resource compilation for growth companies, entrepreneurs, and inventors alike as well as an informational hotspot for breaking news on

USTAR - Mozilla Firefox

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http://ustar.utah.gov/ut/main.php?do=results&source=g&cnty=3

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USTAR

HOME ABOUT US RESOURCES GROWTH COMPANIES ENTREPRENEURS INVENTORS CONTACT US

Cache County

Select Another County >>

Resource Organizations

- [Manufacturing Extension Partnership](#)
- [Northern Utah SCORE Cache Valley Initiative](#)
- [SBDC Logan Office](#)
- [Utah State University - Innovation Campus](#)
- [Western Rural Development Center](#)
- [State Wide >>](#)

Trade/Networking Organizations

[State Wide >>](#)

Incubators/Research Parks

Higher Education/Tech. Transfer

- [Bridgerland Applied Technology College \(Logan\)](#)
- [Utah State University Extension](#)

Entrepreneurs & "High Tech" Businesses

Chambers

- [Bear River Association of Governments](#)
- [Cache Chamber](#)
- [Mountain West Small Business Finance](#)
- [State Wide >>](#)

Capital/Investors

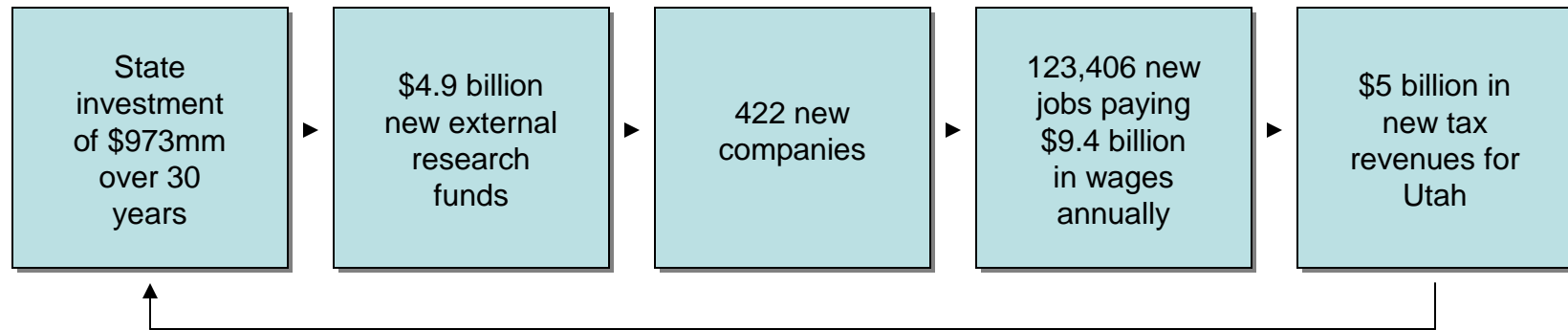
[State Wide >>](#)

Done

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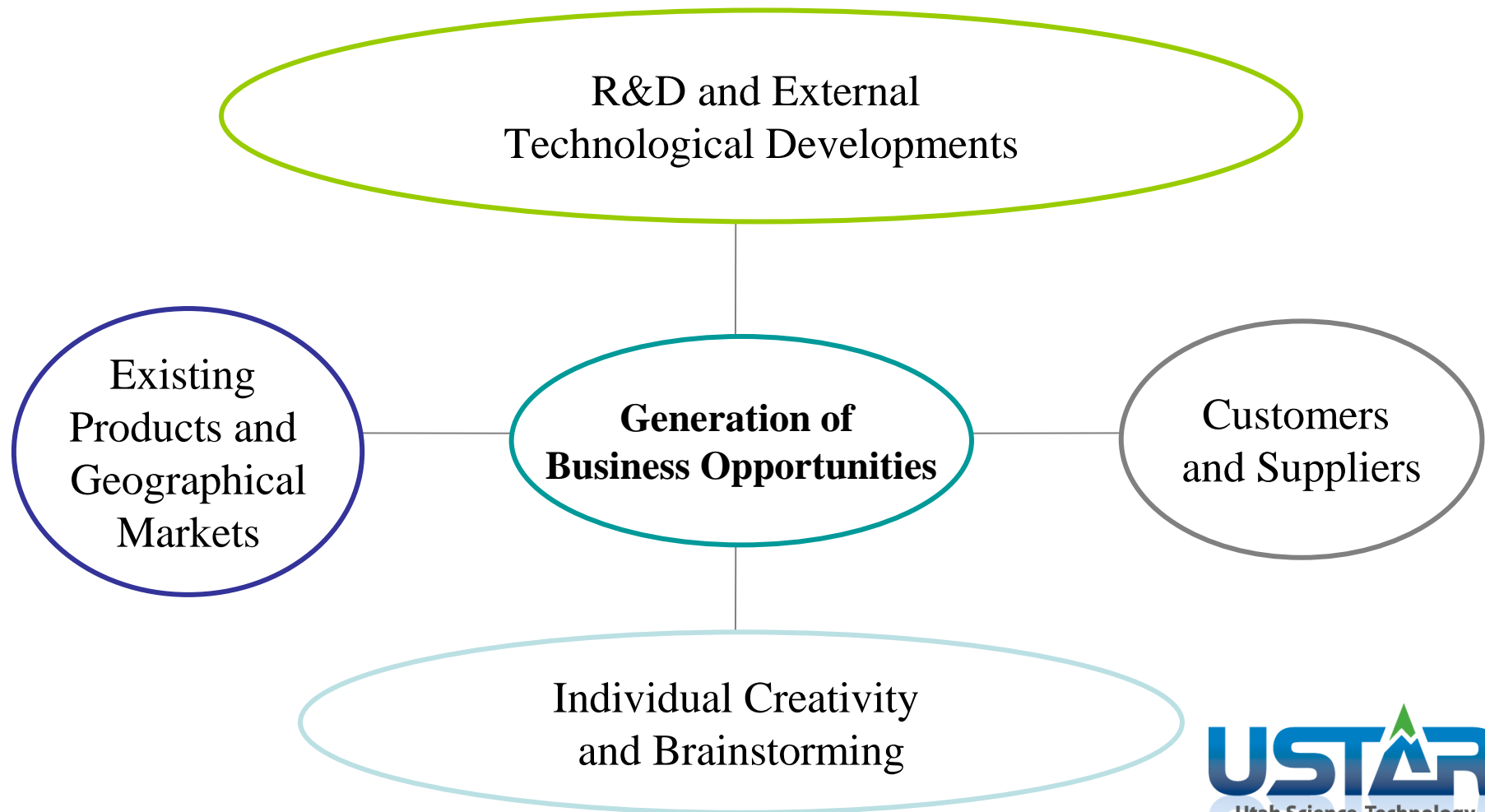
The Goal:

Oct05 Economic Prospectus



* Source: Oct 2005 Economic Prospectus

Sources of Innovation/New Business Ideas



Best Qualities of Successful Entrepreneurs

- 1) Making a Difference
- 2) Passion to make things happen
- 3) Unjustifiable optimism
- 4) Tolerance for uncertainty
- 5) Genuine concern for other people

Jerry Kaplan – Startup

Do what you enjoy!

Guy Kawasaki
Garage Technology Ventures
February 19, 2003

Globalization

- Your companies need to compete with the rest of the world
- We have a competitive advantage versus many other states
- Don't forget about education

Globalization

Randy Komisar
Virtual CEO
April 28, 2004

A few additional thoughts about Startups

- Boot strapping
- Greed
- The team
- Knowing yourself
- It is not easy but it is really rewarding

Thank You!

Questions?



Stan Kanarowski
office:801-538-8778
skanarowski@utah.gov
General Email: ustar@utah.gov
Web: <http://ustar.utah.gov>